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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,596	03/22/2001	Richard Ernest Williams		3016

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Williams Family Trust B
Richard K Williams Trustee
7203 Woodrow Drive
Ft. Collins, CO 80525

EXAMINER

LAROSE, COLIN M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,596

Applicant(s)

WILLIAMS, RICHARD ERNEST

Examiner

Colin M. LaRose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,7-9 and 13 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 10-12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,712,242 by Rajasekaran et al. (“Rajasekaran”).

Regarding claim 1, Rajasekaran discloses a method of generating a cipher for recognition of an energy function derived from an entity, comprising:

(a) scanning said energy function to produce a temporal waveform with a plurality of zero crossings (figures 1a: an analog speech signal, which has been scanned by a sensor or the like, is provided; as can be seen in figure 1b, the signal contains multiple zero crossings);

(b) dividing said waveform into a plurality of indexed temporal cells (zero crossing detector 13 divides the waveform into “cells” bounded by zero crossing locations));

(c) generating descriptors identifying temporal-cell indices and crossing polarities at zero crossings (as shown in figure 1c, descriptors at t_1 , t_2 , t_3 , and t_4 identify the polarities and indices of the zero crossing cells); and

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(d) combining said descriptors to generate said cipher (column 6, lines 8-24: the zero crossing descriptors are combined into bins in order to generate a binary feature vector, which functions as a cipher for template-matching).

Regarding claim 8, Rajasekaran discloses a device for producing a temporal waveform in response to an energy signal derived from an entity comprising:

waveform processing means to produce a zero crossing in said waveform (figures 1a: an analog speech signal, which has been processed by a sensor or the like, is provided; as can be seen in figure 1b, the signal contains multiple zero crossings);

timing means to provide an index of said zero crossing (zero crossing detector 13 divides the waveform into indices, which indicate zero crossing locations);

descriptor-generating means to combine an indicator of crossing direction with said zero crossing in a descriptor (column 5, lines 57-63: zero crossing detector 13 generates descriptors at t_1 , t_2 , t_3 , and t_4 , which identify the polarities and indices of the zero crossings, as shown in figure 1c); and

combining means to merge a plurality of said descriptors into a cipher representing said entity (column 6, lines 8-24: feature extractor 14 combines the zero crossing descriptors into bins in order to generate a binary feature vector, which functions as a cipher for template-matching).

Regarding claim 9, Rajasekaran discloses template-storing means (18, figure 2).

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3. Claims 7 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,259,815 by Anderson et al. ("Anderson").

Regarding claims 7 and 13, Anderson discloses a method/device for determining the degree to which a cipher derived from an unknown entity matches that of a known entity, comprising the steps of:

(a) performing one-many comparisons between each descriptor in an edited template carrying an enhanced descriptor and representing said known entity, and every descriptor in said cipher (Anderson compares deformed ("enhanced") templates of known 3-D objects to a scanned unknown object (i.e. a cipher); the comparison is performed such that each voxel ("descriptor") of a deformed template is compared with corresponding voxels in the unknown cipher image; column 3, lines 7-28 and column 4, lines 52-65); and

(b) accruing a score in which matching descriptors in said comparisons cause said score to increase and non-matching descriptors cause said score to decrease, wherein said score represents a degree of match between said unknown entity and said known entity (column 4, lines 13-30: according to the scoring function, a matching of voxels contributes +1 to the S term, and a mismatch of voxels contributes -1 to the E term; the resulting auto-correlation function f indicates the degree of match between a known object and an unknown object).

Allowable Subject Matter

4. Claims 2-6 and 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,528,725 by Hui

U.S. Patent 3,553,372 by Wright et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (703) 306-3489. The examiner can normally be reached Monday through Thursday from 8:00 to 5:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (703) 306-0377.



AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

CML

Group Art Unit 2623

29 March 2004